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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 October 2007</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,15 and 17-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15 and 17-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

a. This action is taken to response to amendments and remarks filed on 10/23/07.

b. Claims 1-13, 15, and 17-38 are pending in this Office Action. Claims 1, 13, 15, and 28 are independent claims.

c. In view of the amendment to specification, the Examiner hereby withdraws the pending rejection that was given in the previous Office Action.

d. In view of the amendment to claim 8, the Examiner hereby withdraws the pending claim objection that was given in the previous Office Action

Terminal Disclaimer

The terminal disclaimer filed on 10/23/2007 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of US Patent No. 7,222,142 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be

used to overcome an actual or provisional rejection based on a nonstatutory double patenting

ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within

the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
3.73(b).

Claims 1-13, 15, and 17-38 are <u>provisionally</u> rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-14, 16, and 18-40 of

copending Application No. **10/526,504**. Although the conflicting claims are not identical, they

are not patentably distinct from each other because they are substantially similar in scope and

they use the same limitations, for example, "selecting a data object having an identifier (ID)

from the first storage location", are transparently found in application 10/526504 with obvious

wordings variation.

Claims 1-13, 15, and 17-38 are <u>provisionally</u> rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-12 and 15-31 of

copending Application No. **10/526,747**. Although the conflicting claims are not identical, they

are not patentably distinct from each other because they are substantially similar in scope and

they use the same limitations, i.e., first ad second lock objects in application 10/526,749 are

obviously used in lieu of transactional type lock object and permanent type lock object.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Specification

The amendment filed 3/7/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Another embodiment may comprise checking by querying a first lock object. Further, a method may be provided that comprises:

<u>determining whether the data object was stored in the first lock object successfully, and upon an unsuccessful storage,</u> checking, whether the data object assigned to the respective ID has been completely stored in the second storage location, and <u>if the respective ID has not been completely stored,</u> skipping the step of deleting the data object from the first storage location and the step of deleting the ID from the first lock object after the respective data object assigned to that ID has been deleted for that data object and deleting the ID from the first lock object.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13, 15, and 17-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 13 and 28-38, "a computer system" is being cited. However, it appears that one of ordinary skill in the art could reasonably interpret the system as software, per se. As defined in the specification, it is clear that each of the means for is a software instruction to be executed, thus constitutes functional descriptive material. When functional descriptive material is recorded on some computer-readable medium, e.g. memory, and executable, e.g. by a processor, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. The claim lacks the components to enable the functions of the system to be realized and thus does not fall within any of the four statutory classes of 35 U.S.C. § 101.

In reference to claims 15, 17-27, the claims fail to place the invention squarely within one statutory class of invention. In page 18, line 7 of the instant specification, applicant has provided evidence that applicant intends the "medium" to include signals by the use of the word 'propagation medium' which is not further defined in the specification. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim is not statutory. Energy is not a series of steps or acts and thus is not a process.

Energy is not a physical article or object and as such is not a machine or manufacture. Energy is

not a combination of substances and therefore not a composition of matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11, 26, and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the

claimed invention.

Claim 11 recites, "determining whether the data object was stored in the first lock object

successfully and, upon unsuccessful storage, checking whether the data object assigned to the

respective ID has been stored in the second storage location, and if the respective ID has not

been completely stored, skipping deleting the data object form the first storage location and

deleting the ID from the first lock object." The relevant discussion appears in the specification at

page 12, where it states:

> Another embodiment is characterized by said checking is performed by querying
> a first lock object.

> j) in case of a failure in step d) checking, whether the data object assigned to the
> respective ID has been completely stored in the second storage location, and in case of
> no, skipping at least steps e) and f) for that data object and deleting the ID from the first
> lock object

Based on the paragraph stated above, the determining is based on "whether the data object was stored in <u>the second storage location</u> successfully" and "if <u>the data object</u> assigned to the respective ID has not been completely stored, skipping....". Therefore, limitation as cited in claim 11 is not supported in the Specification as filed. Similar problem exists in claims 26 and 38.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-8, 22-23, and 34-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "all selected data objects". There is insufficient antecedent basis for the limitation in the claim, in the preceding claim; only "a data object" is selected, as "selecting a data object... ". Similar problem exists in claims 22 and 34.

Claim 8 recites the limitation, "checking whether the ID for the data object has been stored in the first lock object and if the ID has been stored, skipping storing the data object at the second storage location". Since the ID for the data object will be stored in the first lock object either before or after storing the ID in a second data object, do this means that the data object will never be stored in the second storage location? Similar problem exists in claims 23 and 35. Clarification is needed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-13, 15, 18-28, 30-38 are rejected under 35 U.S.C. 103(a) being unpatentable

over Larsson et al. (US 5,548,750) in view of Nakano (US PG-Pub 2003/0004975).

As per claim 1, Larsson et al. disclose a method for moving data objects in a computer

system from a first storage location to a second storage location, the method comprising:

selecting a data object having an identifier (ID) from the first storage location [*Fig. 1,*

elements A' or C'];

storing the ID in a second lock object [*objects in question have, according to FIG. 6,*

been backup marked in the LID table of the local dam base; col 6, lines 45-47];

determining whether the ID is stored successfully in the second lock object and, upon a

successful storage, storing the ID in a first lock object [*Copying objects to the backup area will,*

however, not start until the local data base handler has made all changes from transactions to

be included in the backup visible in the data base; col 6, lines 14-17];

storing the data object, the ID of which is contained in the first lock object, at the second

storage location [*If it is equal to "include" the object will be copied to the backup area, if it is*

equal to "exclude" the object will not be copied but the value of the variable is set to

"Include" as a preparation for the next backup; col 8, lines 7-11];

deleting the data object, the ID of which is contained in the first lock object, from the first

storage location [*Fig. 2, element Throw old object]*; and

deleting the ID from the second lock object after the ID has been stored in the first lock

object [*If it is equal to "include" the object will be copied to the backup area, if it is equal to*

"exclude" the object will not be copied but the value of the variable is set to "Include" as a

preparation for the next backup; col 8, lines 7-11; Fig. 14, col 2, row 2, dbrecord is removed

from the LID table].

Larsson et al. disclose moving data objects in a computer system from a first storage

location to a second storage location, as described in the previous paragraph. However, Larsson

et al. do not explicitly teach deleting the ID from the first lock object.

Nakano teaches deleting the ID from the first lock object after the respective data object

assigned to that ID has been deleted from the first storage location [*the DBMS acceptance*

section 600 accepts a notification indicative of the data insert completion (step S1107) and

issues a delete request to delete the insert original data (step S1108); para 0104, lines 4-7].

Larsson et al. and Nakano are analogous are because they are in the same general field

transferring files between two storage locations.

At the time when the invention was made, it would have been obvious to a person of

ordinary skill in the art to modify the method of Larsson et al. to adapt the deletion of the

original data object after its copied to a second storage area.

The motivation for doing so would have been to provide a database system, database management method and program, which, even during data rebalance execution of table data, can perform acceptance and execution of a database processing request such as search, update, delete or insert concurrently with the rebalance execution and with improved operability and performance of a database, as suggested by Nakano [para 0009, lines 2-7].

As per claim 3, Larsson et al. disclose the data object is stored in a file and wherein an assignment of the ID to the file or to a name of the file, in which the data object assigned to the ID is stored, is stored in the first lock object *[Fig. 11, element LID table for Backup handler]*.

As per claim 4, the rejection of claim 1 incorporated, and further Nakano discloses the first lock object is stored on a nonvolatile storage means [*DBMS acceptance program 310a and DBMS execution programs 320a to 320c are usually stored in a recording medium including an optical disc; para 0045, lines 1-3*].

As per claim 5, Larsson et al. disclose the ID is stored in the second lock object after selecting a data object having an ID from the first storage location for the respective data object [*Fig. 11, LID table for Data Base handler*].

As per claim 6, Larsson et al. disclose the ID of the selected data object is stored in the second lock object before the data object assigned to that ID is stored at the second storage

location [*When all objects in the LID table have been copied the objects in the backup buffer will be copied to the backup area; col 8, lines 11-13*].

As per claim 7, Larsson et al. disclose storing the ID in the first lock object further comprises: storing IDs of all selected data objects stored in the first lock object before storing any of the selected data objects at the second storage location [*Fig. 8, element 140*].

As per claim 8, Larsson et al. disclose checking whether the ID for the data object has been stored in the first lock object and if the ID has been stored, skipping storing the data object at the second storage location [*Fig. 11, Pointers from LID table in Data Base Handler to LID table in Backup handler for Obj. B and Obj. C*].

As per claim 9, Larsson et al. disclose checking whether the data object is contained in the second storage location and if the data object is contained in the second storage location, skipping storing the data object at the second storage location [*the data base points to the objects B and D in the backup area 4, indicated by arrows 14 and 16; col 4, lines 45-47*].

As per claim 10, Larsson et al. disclose the checking is performed by querying the first lock object [*a "BackupSynch" variable which can take the values "Include" or "Exclude" and the value of which is used by the local data base handler and by the local backup handlers to decide whether objects shall be included in a backup or not; col 3, lines 1-5*].

As per claim 11, Larsson et al. disclose determining whether the data object was stored in the first lock object successfully and, upon unsuccessful storage, checking whether the data object assigned to the respective ID has been stored in the second storage location, and if the respective ID has not been completely stored, skipping deleting the data object form the first storage location and deleting the ID from the first lock object [*Fig. 3, Backup failed and then led to the stop of operation since not all database handlers had acknowledged to create backups*].

As per claim 12, Larsson et al. disclose for use in an enterprise resource planning software [*backing up in a distributed real time data base on primary memory in operation, all data in the data base are structured as belonging to one of several logic data bases; abstract, lines 1-3*].

As per claim 13, is directed to a system claim carrying instructions for performing the method of claim 1 and is rejected along the same rationale.

As per claims 15, 18-26, are directed to a computer readable medium carrying instructions for performing the methods of claims 1, 3-11 respectively and therefore rejected along the same rationale.

As per claim 27, Larsson et al. disclose the computer readable medium is provided as part of a computer program product [*Such functionalities are programs or steps executed by the computers involved; col 4, lines 19-21*].

As per claims 28, 30-38, are directed to system claims carrying instructions for

performing the methods of claims 1, 3-11 respectively and therefore rejected along the same

rationale.

Claims 2, 15, 24 are rejected under 35 U.S.C. 103(a) being unpatentable over Larsson et

al. (US 5,548,750) and Nakano (US PG-Pub 2003/0004975) and further in view of Teng et al.

(US 6,944,615).

As per claim 2, Larsson et al. and Nakano disclose the claimed invention as detailed in

the previous paragraphs. However, Larsson et al. do not explicitly teach using database tables as

data objects.

Teng et al. teach each data object comprises one or more fields of one or more tables, and

wherein the ID comprises one or more key fields of the one or more tables [*To provide*

organization of the database, a unique key index 42 is maintained, with separate indexes for

each table. Thus, the unique key index 42 includes an inventory table index 44, a sales table

index 46, and a human resources table index 48; col 2, lines 6-10].

Larsson et al. and Teng et al. are analogous are because they are in the same general field

of managing locks on transactions performed in a database environment.

At the time when the invention was made, it would have been obvious to a person of

ordinary skill in the art to modify the method of Larsson et al. to specify tables and utilize their

attributes when applying information back up in a distributed database.

The motivation for doing so would have been that it was known in the art that tables are a

form of database objects that represents a collection of interrelated data. Tables are accessible

for transactions, such reading/writing, performed with regard to information stored in the

database(column 1 line 61 to column 2 line 23, Teng).

As to claim 17, is directed to a computer readable medium carrying instructions for

performing the method of claim 2 and therefore rejected along the same rationale.

As to claim 29, is directed to a computer system claim carrying instructions for

performing the method of claim 2 and therefore rejected along the same rationale.

Response to Amendment and Remarks

Applicant's arguments with respect to claims 1, 3-13, 15, 18-28, and 30-38 have been

considered, but they are not deemed to be persuasive.

Applicants argue that Nakano fails to disclose, suggest, or render obvious "deleting the

ID from the permanent type lock object" as recited in claim 1. The Examiner respectfully

disagrees.

In response to applicants' argument, "Test of obviousness is not whether features of

secondary reference may be bodily incorporated into primary reference's structure, nor whether

claimed invention is expressly suggested in any one or all of references; rather, test is what

combined teachings of references would have suggested to those of ordinary skill in art." In re

Keller, Terry, and Davies, 208 USPQ 871 (CCPA 1981). Larsson discloses for the removed

object such as object D, the record in the LID table is removed (column 7, line 27, and lines 56-

58) i.e. implicitly teaches "deleting the ID from the permanent type lock object". Furthermore,

Nakano explicitly teaches the limitation as rebalance operation of copying the data to the

additional storage and deleting the original data (abstract), and it is known once the original data

is deleted so does the entry (ID) of the data is deleted. Therefore, the combination of Larsson

and Nakano implicitly as well as explicitly teaches the limitation "deleting the ID from the

permanent type lock object"

Applicants argue that a prima facie case of obviousness has not been established for the

rejection of claims 2, 17, and 29.

Examiner is not persuaded. In response to applicant's argument that there is no suggestion

to combine the references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where

there is some teaching, suggestion, or motivation to do so found either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re*

Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21

USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to a person of ordinary

skill in the art to modify the method of Larsson et al. to specify tables and utilize their attributes

when applying information back up in a distributed database. The motivation for doing so would

have been that it was known in the art that tables are a form of database objects that represents a

collection of interrelated data. Tables are accessible for transactions, such reading/writing,

performed with regard to information stored in the database (column 1 line 61 to column 2 line

23, Teng). Examiner notes: a prima facie case of obviousness is established when the teachings

from the prior art itself would appear to have suggested the claimed subject matter to a person of

ordinary skill in the art. Once such a case is established, it is incumbent upon appellant to go forward with objective evidence of unobviousness. *In re Fielder,* 471 F.2d 640, 176 USPQ 300 (CCPA 1973).

Thus, for the above reasons, it is believed that the rejection under 35 U.S.C. 103 provides substantial evidence to support the rationale statement in the above rejection, and the rejection under 35 U.S.C. 103 should be sustained.

Related Prior Arts

The following list of prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chan; Wilson Wai Shun, US 6412034 B1, "Transaction-based locking approach".

- Bamford; Roger J. et al., US 6353836 B1, "Method and apparatus for transferring data from the cache of one node to the cache of another node".

- Lakhamraju; Mohana Krishna et al., US 6343296 B1, "On-line reorganization in object-oriented databases".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shew-Fen Lin
Patent Examiner
Art Unit 2166

December 27, 2007

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER